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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/730,200

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Jon Schmidt Kindred

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7590

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EXAMINER

MEI, XU

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

09/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/730,200

**Applicant(s)**

KINDRED ET AL.

**Examiner**

Xu Mei

**Art Unit**

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This communication is responsive to the applicant's amendment dated 07/09/2007.

#### ***Response to Amendment***

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 6-7, 11-15 and 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Seligman (US-6,151,400).

Regarding claims 1, 11 and 16, Seligman discloses a hearing aid for processing an input signal or an apparatus for processing a digital audio signal in Fig. 1, comprising: a microphone 10, a digital processor or detector including an inhibitor having an envelop detector for smoothing the input signal (envelop detector 17) to

inhibits or excludes or reduces distortions arising from apparent modulation (inherent input signal modulation as discussed in Col. 1, lines 21-52) of input signal due to sampling of the input signal (Col. 3, lines 21-26), and an adjuster (VGA 11) to adjust amplification of the input digital audio signal.

Regarding claim 3, see inhibitor or envelop detector 17 in Fig. 2 of Seligman.

Regarding claim 12, the variable gain amplifier 11 can also be considered as a preamplifier as being adjusted for input signal amplification.

Regarding claim 13, see A/D converter as discussed in Col. 3, lines 21-26.

Regarding claims 14 and 17, the envelope detector 17 is capable of removes audio frequencies (i.e., filtering; see Col. 2, lines 42-43), and the envelope detector as shown in Fig. 2 filters out direct current of the input signal.

Regarding claim 15, D/A converter for converting processed digital signal to analog output signal for a user would have inherently included by Seligman when hearing aid is implemented in digital signal processing.

Claims 6-7 are similar to claim 16-17 except for being couched in method terminology; such methods would be inherent when the structure is shown in the references.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 4-5, 8-10 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seligman in view of IBM (IBM Tech Disclosure Bulletin, 1993).

Regarding claims 2, 4-5 and 18, Seligman discloses the AGC device for processing a digital signal for a hearing aid as discussed above, and including filtering means within the envelope detector 17 as shown in Fig. 2 for smoothing the envelop detected signal. However, Seligman does not disclose the inhibitor or detector including a Hilbert filter. Hilbert filter is old and well known in the art for signal processing. IBM discloses a power estimator for AGC circuit including the well known Hilbert filter for power level estimating of a signal for the advantage of accurate calculation of the signal power. And the output of the Hilbert filter that is yielded both real and imaginary components of the signal, i.e., two signals that are 90 degree out of phase with each other or orthogonal to each other in phase (per claim 2). Therefore, it would have been obvious to one of ordinary skill in the art to modifies the hearing aid AGC device of Seligman by having the old and well know Hilbert filter, as shown by IBM, for estimating power of the signal for the inhibitor or detector in order to have the advantage of accurate calculation of the signal power.

Regarding claims 19-20, IBM discloses the AGC device is scaling or processing the signal over a range of power values. The claimed mathematical formula or functions as of claims 19 and 20 is the general mathematical formula or functional

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representation of the power calculation during envelope smoothing of the signals of as shown by IBM.

Claims 8-10 are similar to claims 18-20 except for being couched in method terminology; such methods would be inherent when the structure is shown in the references.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is 571-272-7523. The examiner can normally be reached on maxi flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Xu Mei/  
Xu Mei  
Primary Examiner  
Art Unit 2615  
09/12/2007